

REMARKS

In the Office Action dated May 9, 2003, the Examiner apparently interpreted the oversight in failing to amend claim 5 to change "laser diode array" to laser bar" as in all the other claims as some indication on the part of the Applicants that Applicants are equating a laser diode array with a laser bar. The inadvertent retention of the term "laser diode array" in claim 5 was unintentional, and in fact claim 5 should have been rejected under 35 U.S.C. §112, second paragraph, for lacking antecedent basis for that term. Claim 5 has been amended to use the term "laser diode bar" as consistently used at all other locations in the application, and Applicants believe the previously-submitted arguments establish that those of ordinary skill in the art clearly consider a laser diode bar to be a different type of arrangement, and used for different purposes, from a laser diode array.

The Examiner acknowledged receipt of the corrected or substitute drawings, but stated these drawings were being revised by the draftsman. Applicants assume this is a typographical error, and the Examiner intended to state that these drawings are being reviewed by the draftsman.

Claim 1 was rejected under 35 U.S.C. §112, second paragraph as being indefinite because the Examiner stated it is not clear within the language of claim 1 how a collimating lens or a focusing lens has the structural capability to change the shape of the laser beam into a circular beam, since it is known that laser beams usually have an elliptical shape. In response, it should first be noted that, due to the use of a laser diode bar, the incoming light to the optical arrangement is basically in the form of a continuous line. Therefore, it is this line that must be converted into a substantially circular shape. It is true that a collimating lens, by itself, is not capable

of performing this function, however, claim 1 refers to an optical arrangement, and does not specifically refer to a lens. It is of course true that the lens within the optical arrangement performs either a focusing or collimating function, and since the lens is a part of the optical arrangement, (with other optical elements) it is correct to state that the optical arrangement performs this function as well. Nevertheless, claim 1 has been amended to state that the optical arrangement has different horizontal and vertical focal lengths, thereby providing the necessary structure to achieve the stated result. This is supported in the specification as originally filed at page 7, in the paragraph beginning at line 8 and at page 10, in the paragraph beginning at line 8.

Claim 1 is therefore submitted to be in full compliance with all provisions of §112, second paragraph.

Claims 1-6 and 9 were rejected under 35 U.S.C. §102(b) as being anticipated by Plickert et al. In substantiating this rejection, the Examiner cited language at column 4, lines 7-10 in the Plickert et al. reference, which the Examiner interpreted as a disclosure that "the third substrate can serve to encapsulate the components." This rejection is respectfully traversed for the following reasons.

The language at column 4, lines 7-10 cited by the Examiner does not provide a general teaching or disclosure that the third substrate in the Plickert et al. reference can, or does serve to encapsulate all components that are present. To the contrary, in the Plickert et al. structure, lenses are disposed on the upper side of the third substrate, which serves as a transparent covering for the first substrate. This means that the lenses themselves are not covered in the Plickert et al. reference.

As shown in Figure 1 of the present application, the transparent cover not only covers the carrier, but also the laser diode bar and the optical arrangement mounted

on the carrier. In the previous language of claim 1, since the optical arrangement and the laser diode bar are explicitly stated to be mounted on the carrier, the last claim element of a covering which encapsulates the carrier was intended to mean that the covering also encapsulates the laser diode bar and the optical arrangement, since those elements are mounted on the carrier. Claim 1 has been amended to make this explicitly clear. No such structure is disclosed or suggested in the Plickert et al. reference, and it is not seen how the Plickert et al. reference could even be modified so that the third substrate could perform that function, since the lenses in the Plickert et al. are disposed on the upper side of the third substrate.

Moreover, the Examiner interpreted the individual lenses 31a through 31d of the individual laser diode of the laser diode bar as corresponding to the optical arrangement of claim 1. As discussed above, in a laser diode bar the overall emitted laser beam is in the form of a line. Although the individual diodes have lenses, the individual beams are merged with each other so as to form a line of laser light. There is no optical arrangement disclosed in the Plickert et al. reference that produces a substantially circular beam, as explicitly required in claim 1. The optical coupling arrangement disclosed in Plickert et al. is merely for the purpose of coupling the light from the laser diode bar into a fiber optic cable, and the shape or cross-section of the beam entering into the fiber optic cable is unimportant, hence there is no disclosure whatsoever in the Plickert et al. of an optical arrangement conforming to the optical arrangement of claim 1.

The Plickert et al. reference therefore does not disclose all of the elements of claim 1 as arranged and operating in that claim, and therefore does not anticipate claim 1, nor any of claims 2-6 and 9 depending therefrom.

In the penultimate paragraph on page 3 of the Office Action, it was stated that claims 1, 15, 16 and 20-22 are rejected under 35 U.S.C. §102(b) as being anticipated by Plickert et al., but this is followed by a paragraph that does not apply at all to the Plickert et al. disclosure, and appears to be a duplicate of the paragraph included in the previous Office Action regarding Jewell et al. Since there is no explicit mention of the Jewell et al. reference in the present Office Action, and since the introduction to this Office Action states that Applicants' previous arguments have been considered but are moot in view of the new grounds of rejection, Applicants assume that the Jewell et al. is no longer being relied on.

Claims 1, 7 and 10 also were rejected under 35 U.S.C. §103(a) as being unpatentable over Plickert et al. in view of Hwu et al. The Examiner relied on the Hwu et al. reference as teaching a ceramic substrate having a recess with transparent optical element placed within the recess. As noted above, however, the Examiner is apparently relying on the third substrate disclosed in the Plickert et al. reference as allegedly serving to encapsulate the components, however, the lenses in the Plickert et al. reference are disposed on the upper surface of this third substrate. Therefore, it is contradictory for the Examiner to allege that this third substrate can serve to encapsulate components, which include those lenses. It is not seen how the Plickert et al. structure could even be physically modified in accordance with the teachings of Hwu et al. to employ the recess therein, since this would necessitate the lenses being completely repositioned and redesigned so as to not be on the upper surface of the third substrate. If this modification were made, the third substrate then, even according to the Examiner's interpretation, could not serve to encapsulate those components.

Applicants recognize that in order to substantiate a rejection under 35 U.S.C. §103(a) it is not necessary that a secondary reference be physically combinable with or into a primary reference. Nevertheless, Applicants submit that in order to substantiate such a rejection it is incumbent on the Examiner to at least propose a combination which has some reasonable hope of being constructed. Applicants respectfully submit the Examiner's proposed combination of Plickert et al. and Hwu et al. is merely a proposal to combine different concepts, but there are persuasive structural reasons which would dissuade a person of ordinary skill in the art from making such a combination. As such, Applicants respectfully submit the Examiner's proposed combination is, at best, an "obvious to try" proposal, which is not sufficient to substantiate a rejection under 35 U.S.C. §103(a).

Moreover, even if such a combination were made (despite the persuasive structural reasons in the Plickert et al. reference and Hwu et al. reference against doing so), this would result in such a substantial redesign of both references so as to be a completely new structure or arrangement, rather than an obvious modification.

Lastly, the Examiner stated that, regarding claims 11-14 and 17-19, the Examiner is taking official notice that the use of Peltier elements to provide cooling or temperature control is well known. The Examiner also stated he is taking official notice of the use of adhesives or solder to bond structural elements as being well known. Applicants do not disagree with these statements of the Examiner, however, there was no citation of any other references against claims 11-14 and 17-19 in the Office Action, nor were those claims explicitly rejected under any sub-section of 35 U.S.C. §102, or 35 U.S.C. §103(a). Applicants respectfully submit that merely taking

the official notice indicated by the Examiner is insufficient to establish a proper rejection of any of claims 11-14 or 17-19.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

Submitted by,

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